

## PATENT COOPERATION TREATY

## PCT

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)


Applicant's or agent's file reference <b>1557-SPL</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/US 01/ 07125</b>	International filing date (day/month/year) <b>07/03/2001</b>	Priority date (day/month/year) <b>07/03/2000</b>
International Patent Classification (IPC) or national classification and IPC <b>G06F19/00</b>		
Applicant <b>THE JOHNS HOPKINS UNIVERSITY et al.</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This **REPORT** consists of a total of 2 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consists of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand <b>30/07/2001</b>	Date of completion of this report <b>12/04/2002</b>
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**I. Basis of the report**

The basis of this international preliminary examination is the application as originally filed.

**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability**

In light of the documents cited in the international search report, it is considered that the invention as defined in at least some of the claims does not appear to meet the criteria mentioned in Article 33(1) PCT, i.e. does not appear to be novel and/or to involve an inventive step (see international search report, in particular the documents cited X and/or Y and corresponding claim references).

10/030001

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(10) International Publication Number  
WO 01/067371 A3(51) International Patent Classification<sup>7</sup>: G06F 19/00,  
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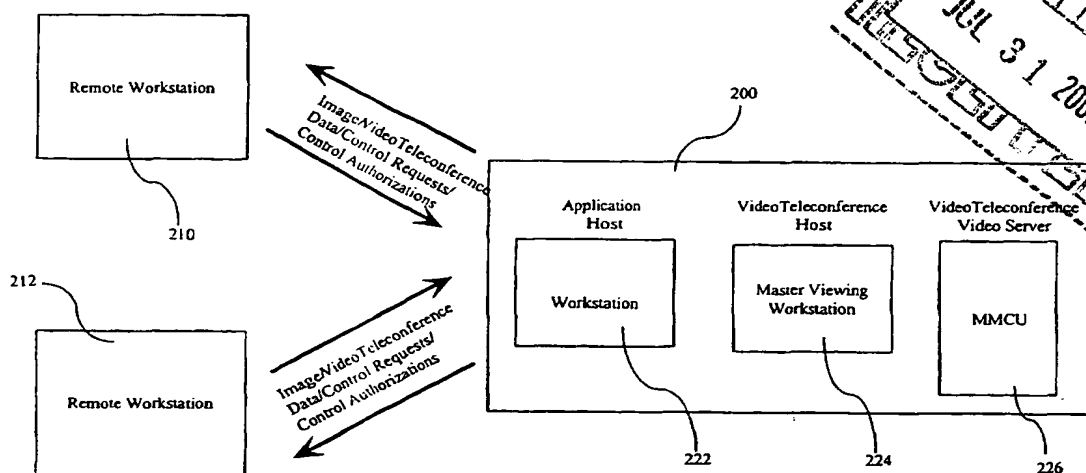
(30) Priority Data:  
60/187,521 7 March 2000 (07.03.2000) US(71) Applicant (for all designated States except US): THE  
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kins Road, Laurel, MD 20723-6099 (US).(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,  
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,  
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian

[Continued on next page]

(54) Title: COOPERATIVE PLANNING SYSTEM AND METHOD



(57) Abstract: A medical treatment planning system which enables multiple collaborators in different locations to interactively view and manipulate data for use in, for example, preparing a treatment plan while also interacting with each other. Interactive medical treatment planning involving multiple participants using multiple treatment planning stations includes establishing one of the treatment planning stations as a session controller and launching treatment planning software thereon; establishing a communication connection between the session controller planning station and all of the treatment planning stations participating in a planning session; and displaying, on all participating treatment planning stations, treatment plan information being displayed on the session controller treatment planning station. The system also designates one of the treatment planning stations as an active controller for controlling manipulation of the treatment planning information, which may be regulated by the session controller treatment planning station.

WO 01/067371 A3



patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

- *without international search report and to be republished upon receipt of that report*



patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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4 July 2002

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**CLEAN**

**COOPERATIVE PLANNING SYSTEM AND METHOD**

**CROSS-REFERENCE TO RELATED APPLICATIONS**

This application claims the benefit of International Application No. PCT/US01/07125, filed March 7, 2001 which claims the benefit of prior-filed U.S. Provisional Application No. 60/187,521, filed on March 7, 2000.

**BACKGROUND OF THE INVENTION**

**1. Field of the Invention**

The present invention relates to a method and system for medical treatment planning and more particularly to a method and system for medical treatment planning involving interactive communication between medical personnel at diverse locations, and real-time viewing and manipulation of the same data by all parties utilizing the system.

**2. Description of the Prior Art**

Traditionally, when a patient needed medical consultation and/or treatment, the patient had to travel to the location of the medical professional(s) providing the diagnostic, planning, and treatment services. Complex medical treatments (e.g., radiation therapy) typically involve a collaborative effort between various members of one or more departments within a medical institution. For example, with respect to radiation therapy, within a Radiation Oncology Department there may be radiation physicists, dosimetrists, radiation oncologists, and other similar medical professionals, all of whom may provide important input when putting together a treatment plan. A dosimetrist measures and generates radiation dose distributions and calculations, and an oncologist prescribes and oversees a course of radiation therapy. The dosimetrist works with treatment planning computers and other manual data in assisting the radiation oncologist prescribe the proper dose. Additionally, peer reviewers are often utilized so that the treatment plan developed by a collaborative team is independently evaluated to assure that the proposed treatment plan is appropriate, as well as to solicit

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>1557-SPL</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 01/ 07125</b>	International filing date (day/month/year) <b>07/03/2001</b>	(Earliest) Priority Date (day/month/year) <b>07/03/2000</b>
Applicant  <b>THE JOHNS HOPKINS UNIVERSITY et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

2  
☐ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

PC 01/07125

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G06F19/00 G06F17/60

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

INSPEC, EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BECKER ET AL.: "A System for Cooperative Work in the Medical Domain" PROCEEDINGS 24TH EUROMICRO CONFERENCE, vol. 2, 25 - 27 August 1998, pages 1061-1067, XP002179160 Section 3.1.1 Section 4.1 figure 2	1-20
X	ENGELMANN U ET AL.: "Borderless Teleradiology with CHILI" JOURNAL OF MEDICAL INTERNET RESEARCH, vol. 1, no. 2, 1999, XP002179161 the whole document	1-20

☒ Further documents are listed in the continuation of box C.☐ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

3 October 2001

Date of mailing of the international search report

15/10/2001

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/07125

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>ENGELMANN ET AL.: "Experiences with the German teleradiology system MEDICUS" COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE, vol. 54, 1997, pages 131-139, XP001028640 Sections 2, 3, 4</p> <p>---</p>	1-20
X	<p>BAHNER ET AL.: "Anforderungen an ein Teleradiologiesystem, Erfahrungen aus dem Medicus-2 Feldtest" RADIOLOGE, vol. 37, no. 4, 1997, pages 269-277, XP002179162 the whole document</p> <p>---</p>	1-20
X	<p>GOMEZ E J ET AL: "A BROADBAND MULTIMEDIA COLLABORATIVE SYSTEM FOR ADVANCED TELERADIOLOGY AND MEDICAL IMAGING DIAGNOSIS" IEEE TRANSACTIONS ON INFORMATION TECHNOLOGY IN BIOMEDICINE, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 2, no. 3, September 1998 (1998-09), pages 146-155, XP000831159 ISSN: 1089-7771 Section II: Methods</p> <p>---</p>	1-20
A	<p>ELDEIB ET AL.: "SWEAT: Standards applied in a Web based Egyptian Asynchronous Telemedicine Project" PROCEEDINGS OF THE 20TH ANNUAL CONFERENCE OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOCIETY, vol. 20, no. 3, XP002179163 abstract</p> <p>-----</p>	1,8-10, 19,20